DOCUMENT RESUME

ED 280 697 SE 047 859

AUTHOR Penn, Linda
TITLE Young Scientists Explore the Human Body. Book 11 Primary Level.
REPORT NO ISBN-0-86653-352-4
PUB DATE 86
NOTE 43p.; Illustrated by Charlene Czerniak. For volumes 1-12 of this
AVAILABLE FROM Good Apple, Inc., P.O. Box 299, Carthage, IL 62321-0299 ($3.95--GA686; $47.40 for set of 12 titles--GA1104).
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Biology; Educational Games; *Elementary School Science; *Environmental Education; *Human Body; *Learning Activities; Parent Participation; *Physiology; Primary Education; *Science Activities; Science Education; Science Experiments; Science Instruction; Songs

ABSTRACT

Designed to present interesting facts about science and to heighten the curiosity of primary age students, this book contains activities about the natural world and numerous black and white illustrations. The activities specifically focus on the human body and encourage a positive self-concept. The theme of the first section is air--the breath of life. Activities and experiments in this section concentrate on the origin and function of oxygen and on the process of breathing. The second section contains exercises on the senses; a special science trivia and concentration card game, Brain Waves, is included to point out the uniqueness of the human brain. Directions and explanations for the activities are provided in the teacher/parent guide section. (ML)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED280697

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Jerry Aten

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

SE 047 859

YOUNG SCIENTISTS EXPLORE

THE HUMAN BODY

BOOK 11—PRIMARY LEVEL

by

LINDA PENN
and
CHARLENE M. CZERNIAK

illustrated by **CHARLENE M. CZERNIAK**

cover design by **VANESSA FILKINS** and **TOM SJOERDSMA**

Copyright © Good Apple, Inc., 1986

ISBN No. 0-86653-352-4

Printing No. 987654321

GOOD APPLE, INC.
BOX 299
CARTHAGE, IL 62321-0299

The purchase of this book entitles the buyer to reproduce the student activity pages for classroom use only. Any other use requires written permission from Good Apple, Inc.

All rights reserved. Printed in the United States of America.

CONTENTS

Preface ii
Meet "Me" 1
Your Science Sign 2

AIR—The Breath of Life (Sensing Science) 3
The Origin of Oxygen (Picture Word Fill-in) 4
Plants—Past and Present (Fernando Fern and Sensing Science) 5
Oxygen—Who Needs It? 7
"Stepping Through Time" (Time Cycle Game of Living Things) 8
The Past and Present World of Nonliving Things (Classification) 12
Believe It or Not (Experiment) 13
The Breathing Connection (A Matchup Game) 14
Making the Air Breathable (Experiment) 15

Senses for Survival (Pantomime Rhyme) 16
The Eyes Have It! (Sensing Science) 17
Seeing the World Through Compound and Simple Eyes! (Experiment) 18
Ears to You (Sensing Science) 19
Special Ears (Experiment) 20
Sound-Catching Shapes 21
Nifty "Noses" (Word Fill-in) 22
The Nose Knows! (Experiment) 23
Terrific "Tasters" (Cut and Paste Activity, Sensing Science) 24
A **Touching** Trail to Happy Teeth and a Healthy Body 25
Matching Up Moving Muscles. . . (Sensing Science) 26

Brain Waves (Combines Game of Science Trivia and Concentration) 28

Teacher/Parent Guide (Reference for Above Activities) . . . . . inside back cover

PREFACE

As adults concerned with the young lives entrusted to our care, we naturally encourage a positive self-concept. What better way to begin an activity book on the human body than with the "Me" song, a musical celebration of individual importance. After singing a personal cheer for "Me," the children can use page 1, as a booklet cover for their own activity pages on the human body. The scientific sign for male or female, page 2, will mark their first activity in a special way and give further emphasis to an important self-image.

The children are now ready to explore one of the primary elements of life—the air we breathe. The first of many "Sensing Science" exercises will aid their **active** understanding of the gases present in the air and the ability of our lungs to remove the vital gas, oxygen, for use in our bodies. They will enjoy tracing "The Origin of Oxygen" back to the early green plants, the only living thing that can make its own food. The book mascot, Fernando Fern, will introduce several pages of activities, including the cycle games, which allow children to classify living and nonliving things as they occurred through the ages of time. Beginning with the early green plants, they will step through living history, cutting and pasting pictures of the many forms of life that existed, including the popular dinosaurs. "The Past and Present World of Nonliving Things," page 12, will then follow time with many of "thinking man's" marvelous inventions. After establishing the Time Cycles, they will want to experiment with a way one important living thing, the plant, is able to breathe. Activities with some unusual methods of breathing, as well as a "clean air" experiment involving their own noses, will round out the first part of our book.

Part two starts with an entertaining pantomime on the five senses. Then the individual senses are introduced in turn, beginning with eyesight. Many of the senses will be compared to familiar animal life forms to add interest and aid understanding. There will be several "Sensing Science" exercises and some will require reading with a magnifying glass to simulate the marvelous eyes of the eagle. Simple-to-do experiments will also aid the child's **active** understanding of the human body senses. "A **Touching** Trail to Happy Teeth and a Healthy Body," page 25, will involve not only the sense of touch, but an awareness of nutritious foods that may or may not be a part of a child's school-day breakfast and lunch. All the senses and our healthy, exercised bodies are brought into the picture, as the children are asked to try "Matching Up Moving Muscles," page 26.

Finally, Brain Waves, a Science Trivia and Concentration Card Game, puts the emphasis on the thing that sets us above all the plants and animals—our human brain. Children will have fun thinking about answers to questions based on the science material covered throughout the human body activities. Questions and answers for this game, as well as coordinating information for the earlier activity pages, are contained in the Teacher/Parent Guide, inside the back cover. Don't miss it!

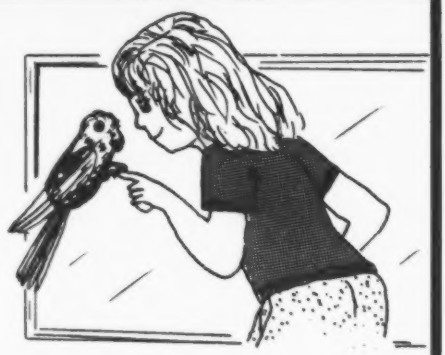
May *Young Scientists Explore the Human Body* be a motivation to . . .

Reach out for the hands of a curious child.
Share "living science," for it opens young eyes
TO THE WONDER AND BEAUTY OF LIFE.

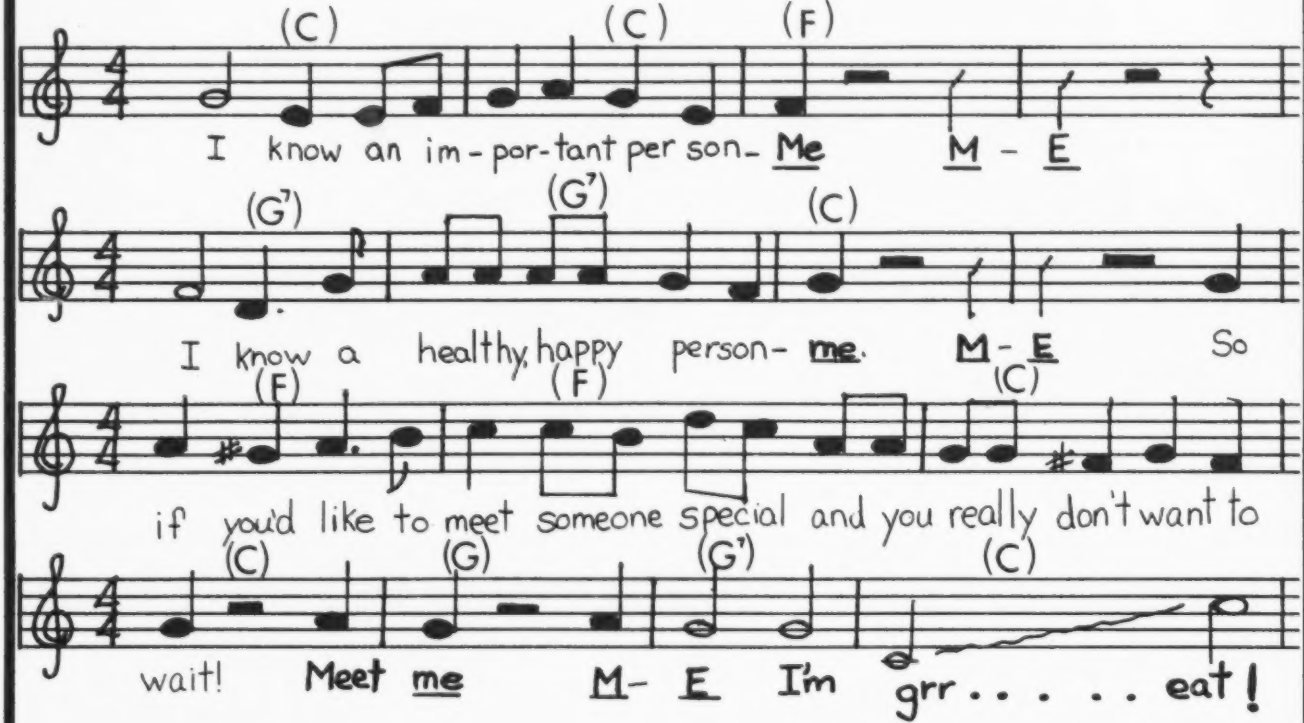
Linda Penn Charlene M. Czerniak

MEET "ME"

I can breathe and run!



I can see and hear!


(C) (C) (F)
I know an im-por-tant per son- Me M - E
(G') (G') (C)
I know a healthy, happy person- me. M - E So
(F) (F) (C)
if you'd like to meet someone special and you really don't want to
(C) (G) (G') (C)
wait! Meet me M- E I'm grr . . . . . eat!

I can feel warmth!

I can smell and taste!

♂♀ YOUR SCIENCE SIGN

Science has given each boy and girl

a very special sign.

The signs are made quite easily

with circles ○○ and some lines ↗ +.

Female is the other name

for **girl** and **woman**, too.

Can you draw the **female** sign ♀

as those in science do?

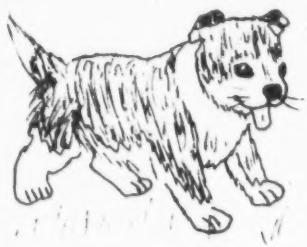
Male is but another name

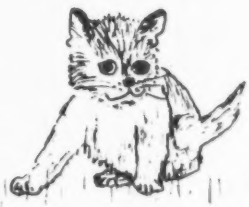
for **man** and **boy**, it's true.

Can you draw the sign for **male** ♂

just as scientists do?

AIR The Breath of Life





The fresh air that surrounds us

will help to keep us alive.

Since it contains oxygen (OX-ih-jin),

breathing life can survive.

Sensing Science

Inhale

Now take a very deep breath and feel it FILL your lungs.

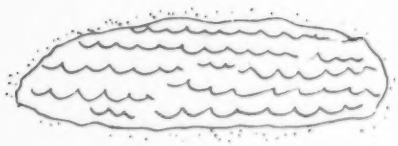
Lungs remove the oxygen and out the **STALE** air comes!

Exhale

THE ORIGIN OF OXYGEN

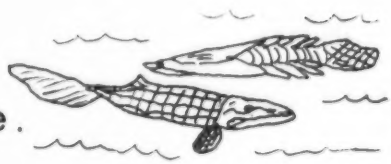
Back in the ___ ___ ___ ___ ___'s

beginning,

all life survived in the 

___ ___ ___.

Since water's partly oxygen,



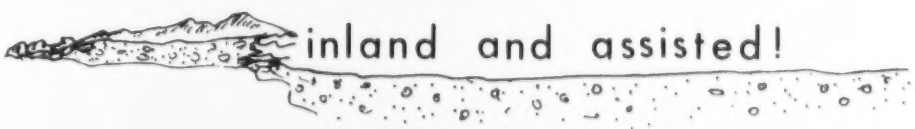
new breathing life forms came to be.

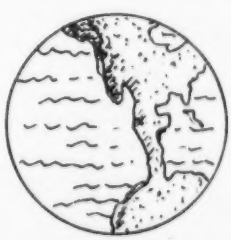
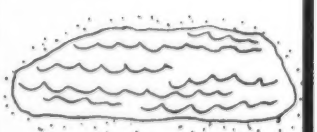
But on ___ ___ ___ ___

outside the water, no oxygen existed

until prehistoric green

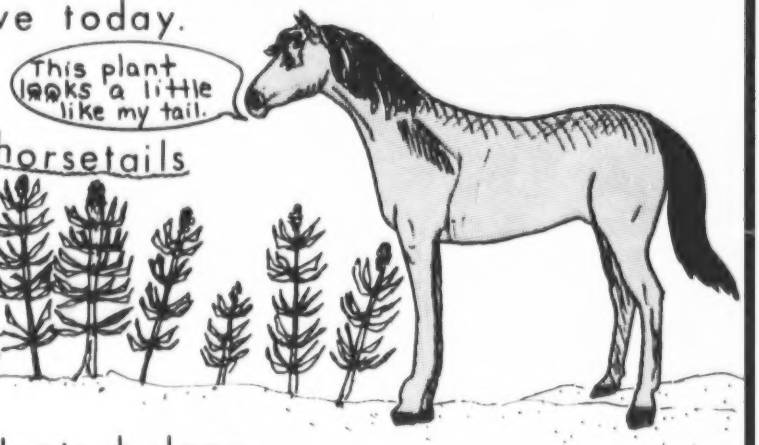
___ ___ ___ ___ ___ ___

moved  inland and assisted!

plants	 earth	land	 sea

Plants - Past and Present

Some prehistoric plant types still survive today.



Graceful ferns and horsetails are just two.

Since both of these plants belong to a green plant group, they are able to make their own food.

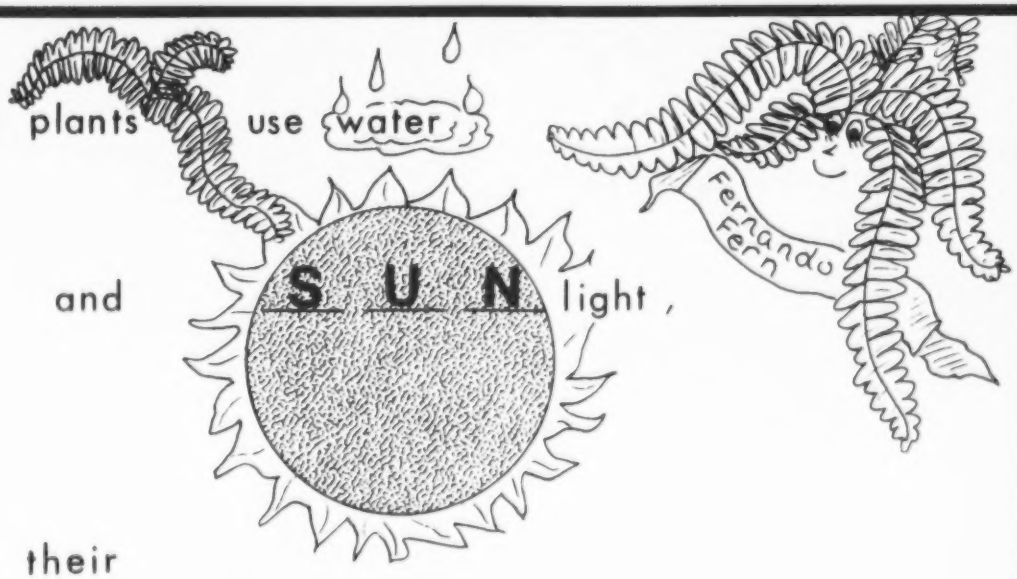
By making food, the early plants changed the stale land air and because they gave off oxygen, breathing life could now live there.

Sensing Science

Using sun-sensitive paper (T/P Guide, inside back cover), make a sunprint of the food-making leaves of the "prehistoric" fern plant.

Cut out the shape of an easily recognized prehistoric life form, such as the dinosaur (p. 7), to add interest to your sunphoto of ancient plant and animal life.

Green plants use water and S U N light, along with their



green chlorophyll (KLOR-ah-fil), plus a gas called carbon dioxide (dy-OX-eyed).

[That's the stale air we exhale.]

See "Sensing Science," page 3.

So for making food, the early plants used the stale land air and because they gave off oxygen, new life forms could live there.

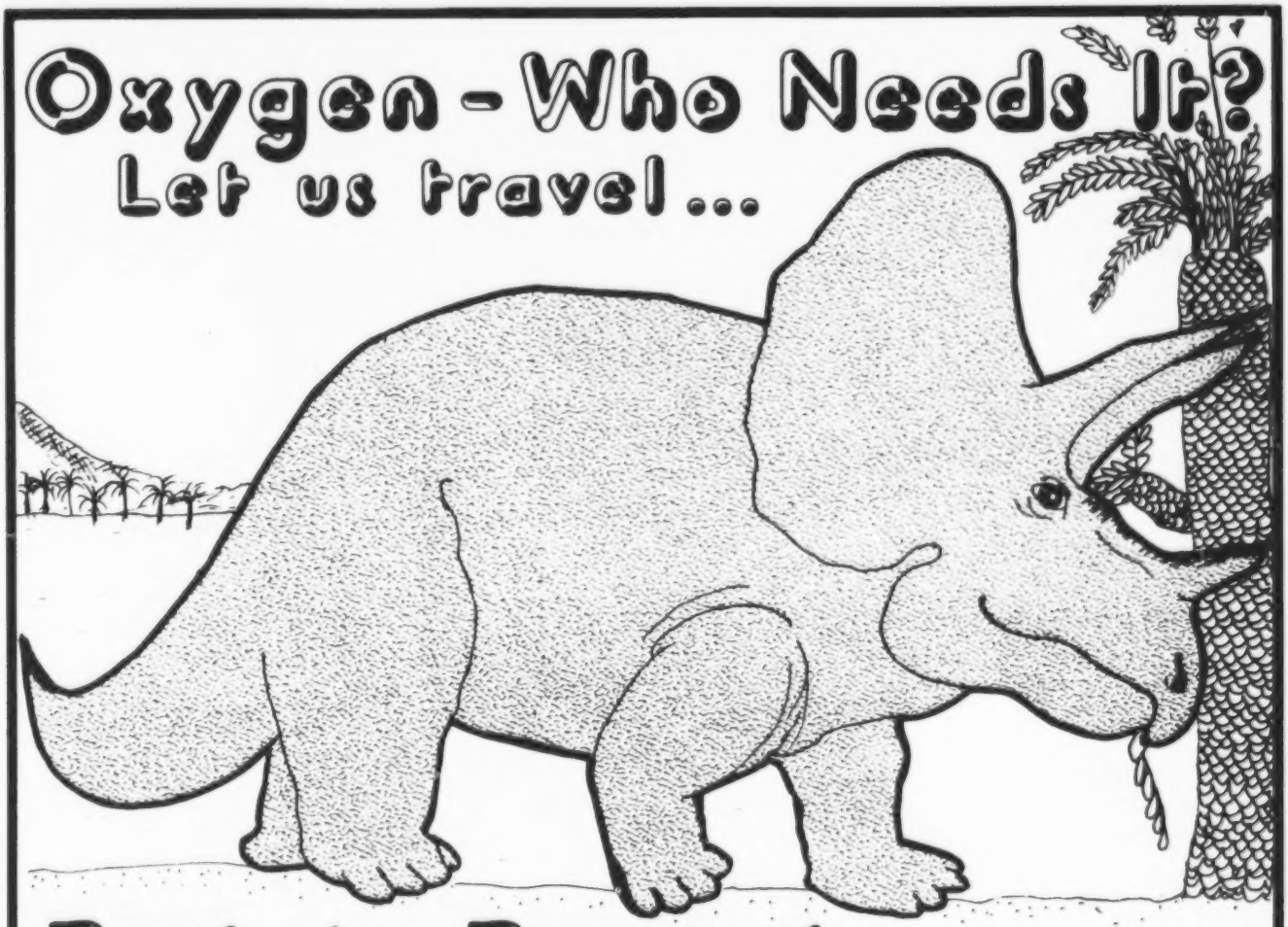
Sensing Science

Can you fill in the formula for plant food?

_____ chlorophyll + ____ light + _____ + carbon dioxide = (equals) oxygen and plant food.

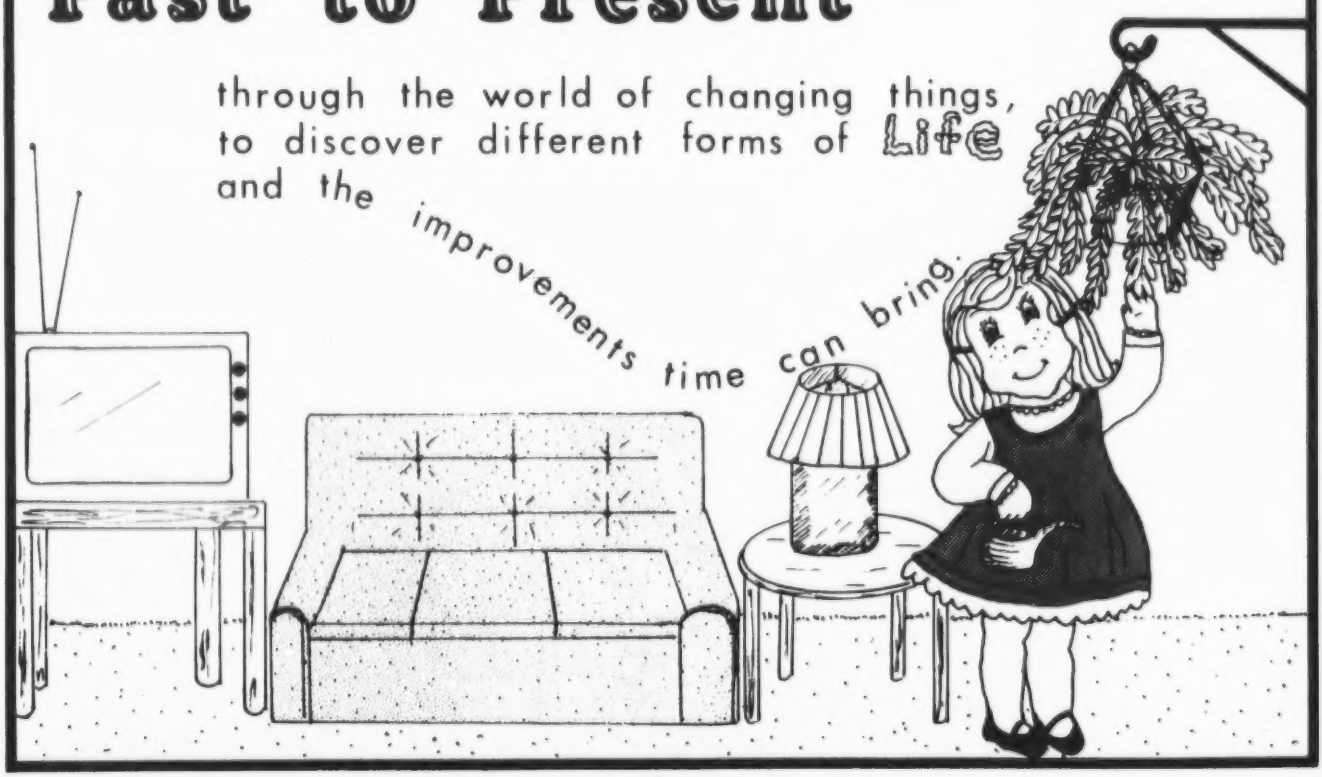
Oxygen - Who Needs It?

Let us travel...



Past to Present

through the world of changing things,
to discover different forms of Life
and the improvements time can bring.



"Stepping Through Time"

TIME CYCLE GAMES

of Living and Nonliving Things

STEP

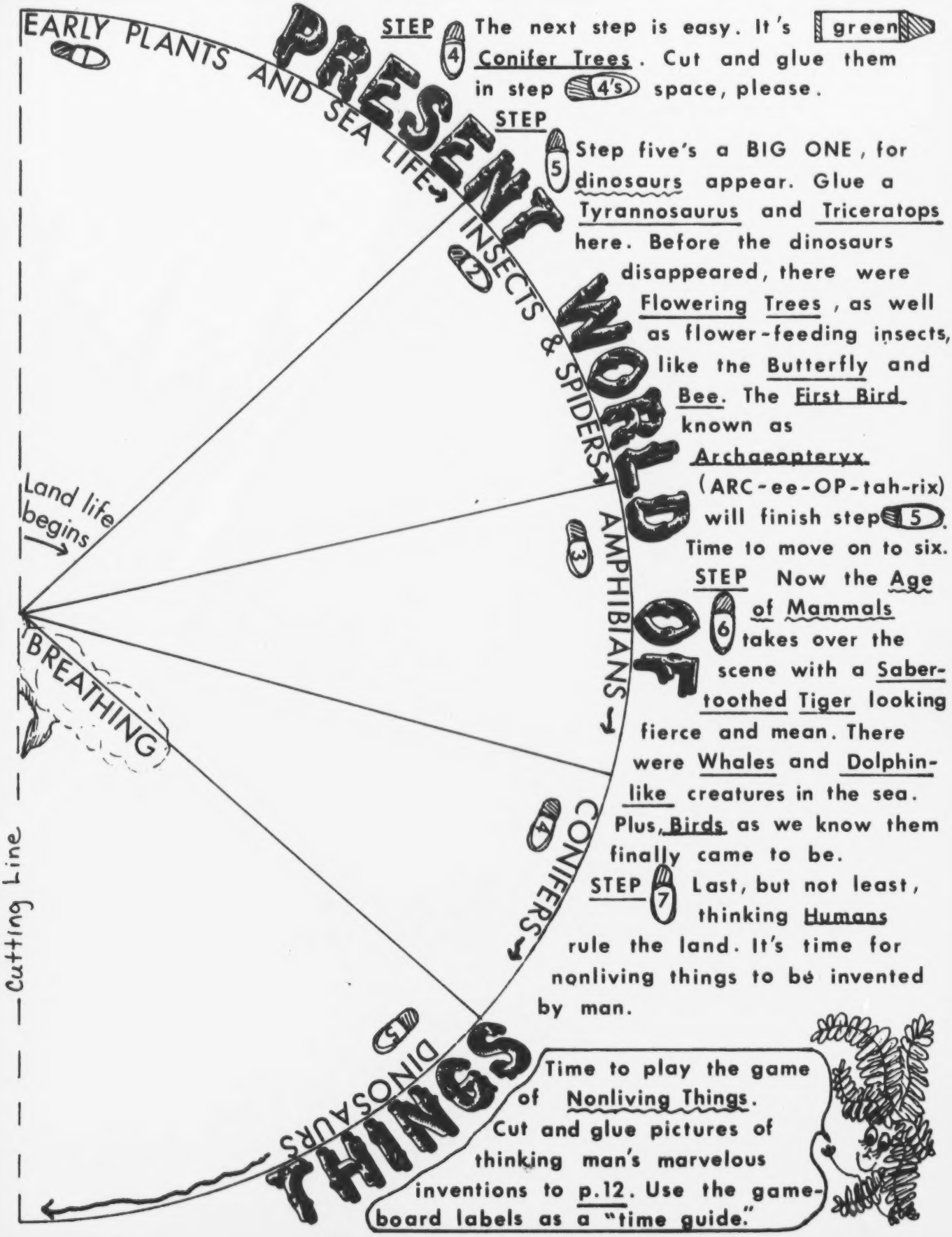
1 This game begins with pages 10 and 11. Can you find the Early Plants ? They made the first oxygen! [Color these plants green.] To complete the first step in this Time Cycle Game, color pictures of living things that breathe, grow and change. [Color 19 living things.] Cut out the Early Plants and the Bony Fish , too. Glue them under step 1 then move on to step 2.

STEP

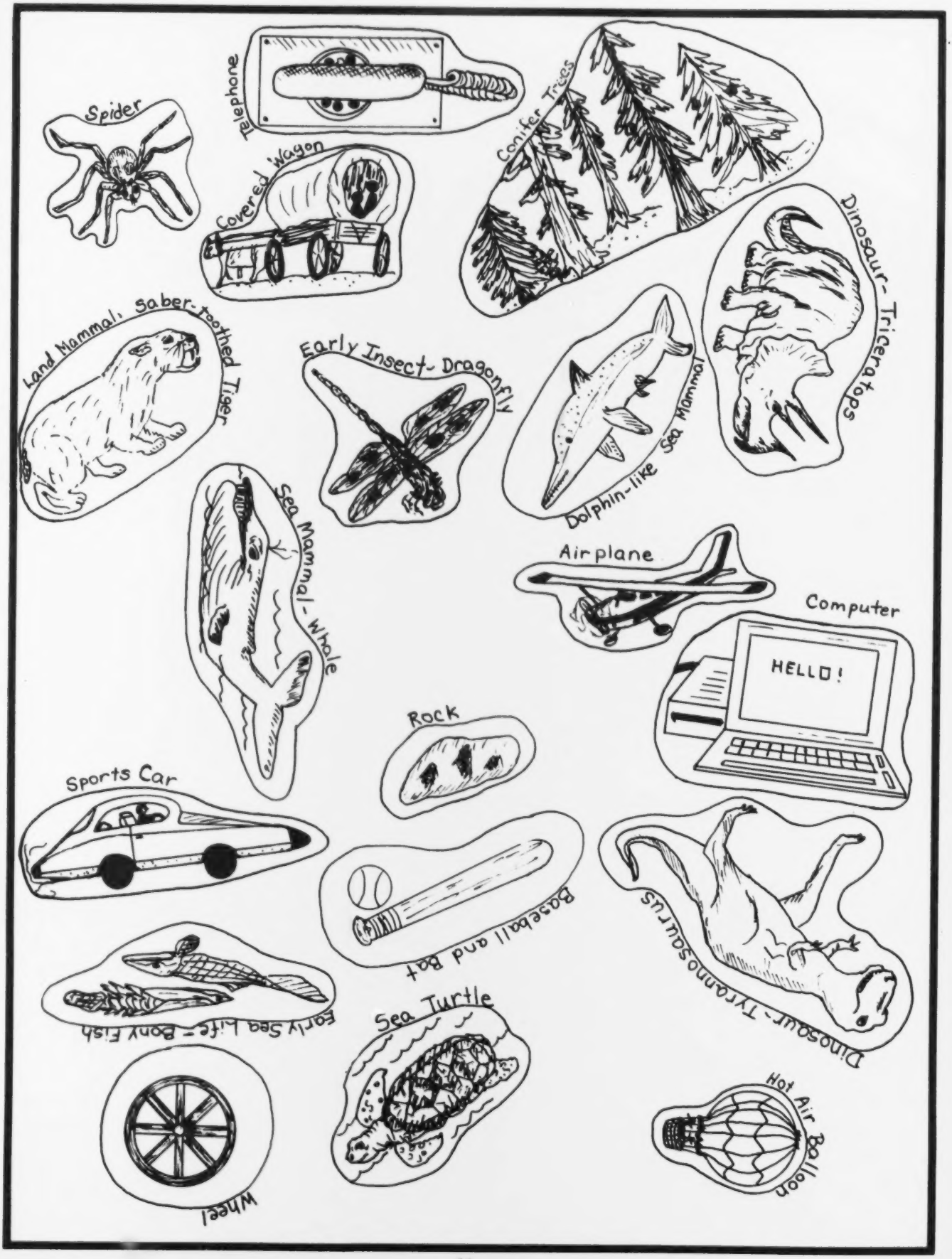
2 The Dragonfly and Spider were early insects, you see. Glue them under step 2 and move on to step 3.

STEP

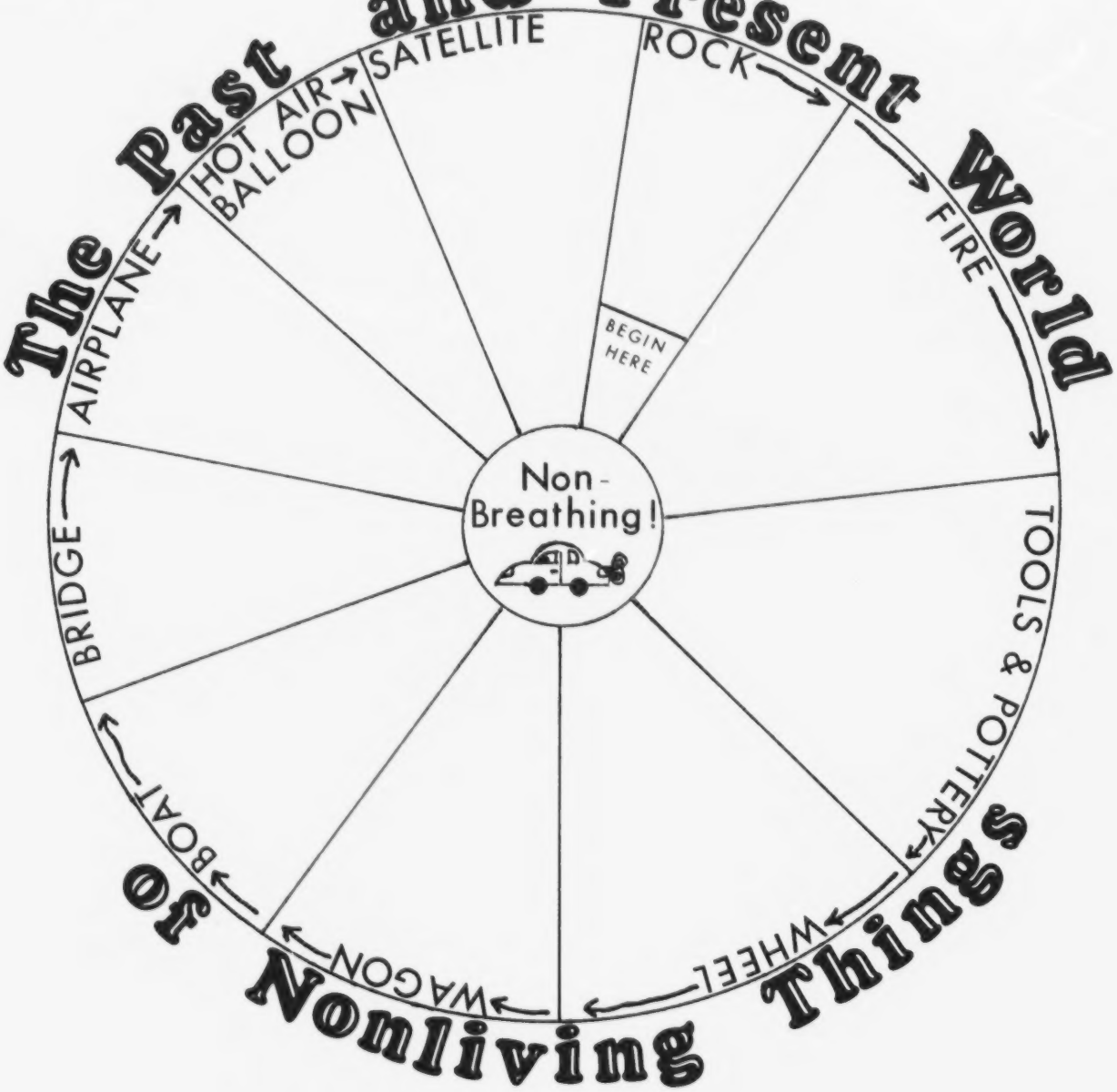
3 Amphibians (am-FIB-ee-ans), like Frogs, lived on water and land. There were large Turtles, too. Find them both, if you can.


EARLY PLANTS AND SEA LIFE
INSECTS & SPIDERS
AMPHIBIANS
CONIFERS
DINOSAURS
THINGS
PRESENT WORLD OF
Land life begins
BREATHING
Cutting Line
STEP 4 The next step is easy. It's green Conifer Trees. Cut and glue them in step 4's space, please.
STEP 5 Step five's a BIG ONE, for dinosaurs appear. Glue a Tyrannosaurus and Triceratops here. Before the dinosaurs disappeared, there were Flowering Trees, as well as flower-feeding insects, like the Butterfly and Bee. The First Bird known as Archaeopteryx (ARC-ee-OP-tah-rix) will finish step 5. Time to move on to six.
STEP 6 Now the Age of Mammals takes over the scene with a Saber-toothed Tiger looking fierce and mean. There were Whales and Dolphin-like creatures in the sea. Plus, Birds as we know them finally came to be.
STEP 7 Last, but not least, thinking Humans rule the land. It's time for nonliving things to be invented by man.
Time to play the game of Nonliving Things. Cut and glue pictures of thinking man's marvelous inventions to p.12. Use the game-board labels as a "time guide."

Tools and Pottery
Flower-feeding Butterfly
Kite
First Bird- Archaeopteryx
Television
Bridge
Later Birds
Frog-Amphibian
Satellite
Radio
Humans
Early Plants
Flowering magnolia
Boat
Fire
Bee
Poison Dogwood flowering


Telephone
Spider
Covered Wagon
Conifer Trees
Dinosaur- Triceratops
Land Mammal, Saber-Toothed Tiger
Early Insect- Dragonfly
Dolphin-like Sea Mammal
Sea Mammal- Whole
Airplane
Computer
HELLO!
Rock
Sports Car
Baseball and Bat
Dinosaur- Tyrannosaurus
Early Sea Life- Bony Fish
Sea Turtle
Hot Air Balloon
Wheel

The Past and Present World of Nonliving Things



BELIEVE IT OR NOT

YES

NO

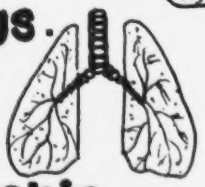
All green plants usually breathe through their **leaves**,

while fish must use their **gills**.

The breathing holes on insect bodies are called their **spiracles** (SPEAR-ra-kuls).

A person will use a **mouth**,

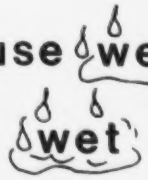
nose and **lungs**.



Toads and frogs

must use wet **skin**.

In every case, it takes a wet place



to bring the oxygen in.

Sensing Science

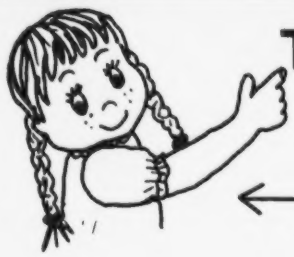
TO PROVE: A "breathing" leaf contains water.

Materials Needed: Fresh green leaf, sunlight and a Ziploc plastic bag.

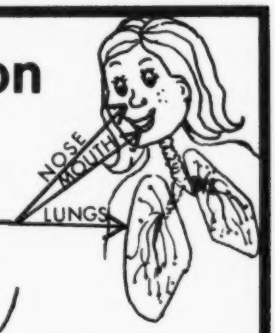
Directions: Have children place hand inside bag to notice it is dry. Place leaf in bag, "zip" shut and put bag in sunlight. After several minutes remove leaf and allow children to feel the wet inside of the bag.

HIGHLIGHTER HIGHLIGHTER HIGHLIGHTER HIGHLIGHTER HIGHLIGHTER HIGHLIGHT

HIGHLIGHT THE WET "BREATHING AREAS" PICTURED ON THIS PAGE.



The Breathing Connection
[A matchup game]



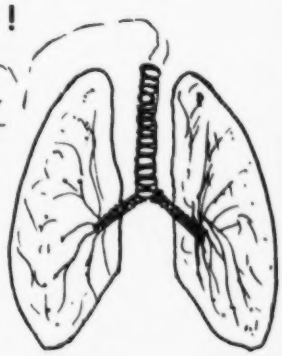
People breathe better when they use their **noses**,

for its air-cleaning hairs are the best!

From the **nose**, clean air moves

on to the **lungs**,

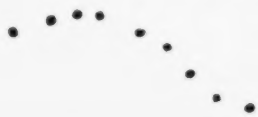
... two very moist bags in our chest.

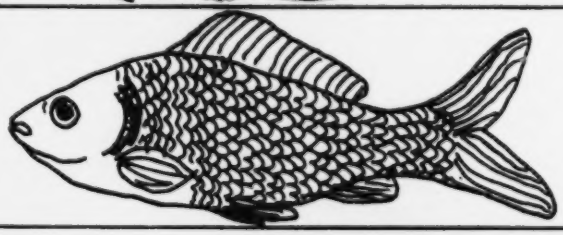


Can you make the "breathing connection" for these living things?

gills

spiracles

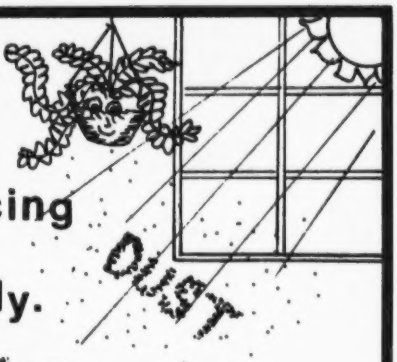




skin

leaves

Making the Air Breathable



Have you ever watched dust dancing
inside a sunlit room?
It's fun to see the tiny specks fly.

The nose has its dusting hairs
because specks are in the air.

LET'S SEE IF WE CAN FIND OUT WHY!

A Sensing Science Experiment

TO PROVE: A **nose** with hairs inside is better able to catch the **dust** in the **air** we breathe before it travels to our lungs.

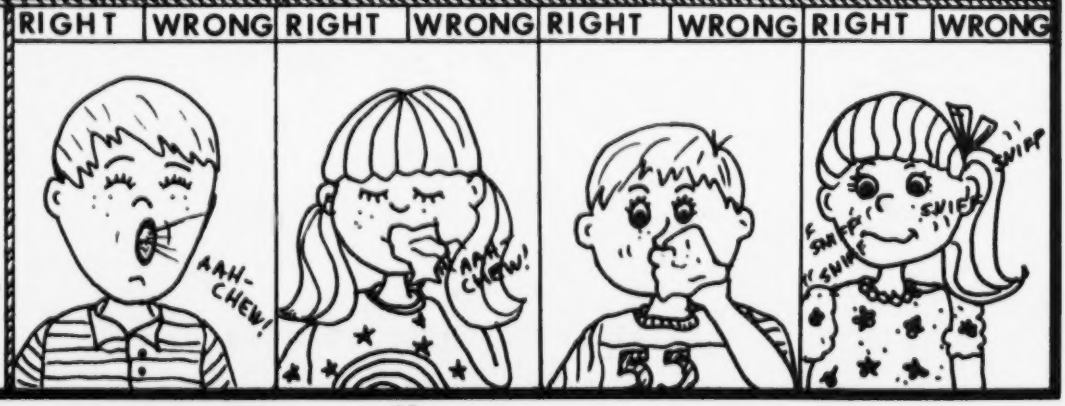
Materials Needed: Small, shallow cup of dusting powder, a "hairy" artist's paintbrush, the "smooth," nonwriting end→ of a ball-point pen, and double-stick tape

Directions:

Place small piece of double-stick tape in each circle. Put rounded end of the pen in the powder and then on the "SMOOTH PEN" circle. Put the hairy brush in the powder and then on its circle. WHICH IS BETTER FOR CATCHING POWDERY DUST?

Blowing the nose and sneezing are two ways of cleaning the "dusting hairs" in the nose.

Highlight the right and wrong ways to keep your nose clean.



Senses for Survival

After **breathing**, it's our **senses** that help us to survive. **Survive** simply means to keep staying ALIVE!

Shake the body part where most senses are found.

Then **blink** with the sense for seeing all around.

Next **wiggle** your best place for breathing and smell.

Then **hold** on to something that let's you hear well.

Lick your lips with the fourth sense that helps you taste.

Now with your fifth sense **touch** a smile on your face.

THE EYES HAVE IT!

The first **important sense** is your sense of **sight**. By "blinking" your eyes, you got that right. ("Blinking" protects eyes while keeping them moist and clear.)

The **strongest eyesight** of any living thing belongs to a group with ~~feathers~~ and **wings.**

Birds like **eagles** and **hawks**

do their **hunting from the sky,**

spotting food far below

since their **eyesight magnifies.**

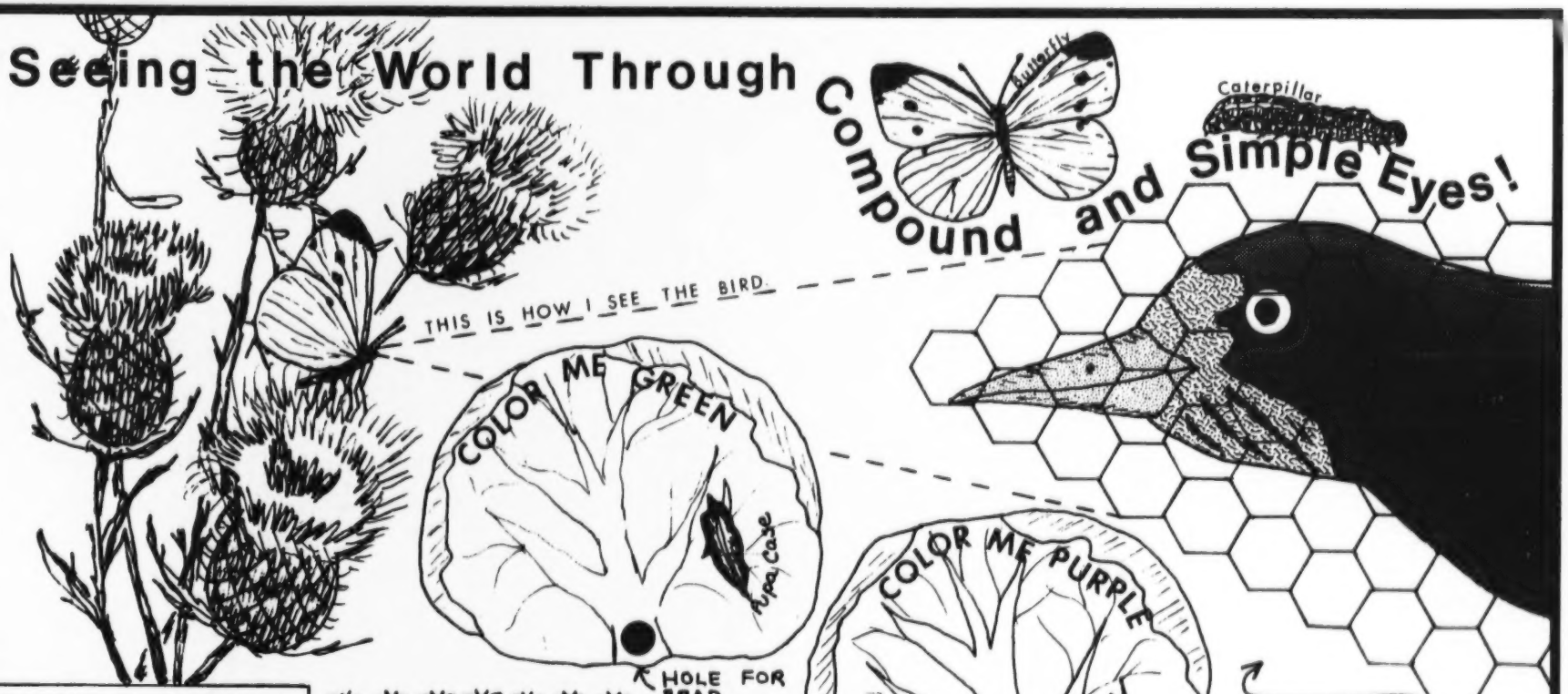
Sensing Science

Equip your **eyes** with the **vision** a hunting bird finds **best...**

Read every a "Sensing Science" with a magnifying glass.

Read with "eagle eyes" using a 3X magnifying glass. The eyesight of eagles and hawks can be three to ten times stronger than our human eyes. They need to see their food (fish, mice, snakes) from the sky, a long distance away. You will need a magnifying glass to read this and any future "Sensing Science" with "eagle eyes."

Seeing the World Through Compound and Simple Eyes!



SENSING SCIENCE

Butterflies and other flower-feeding insects see many of the colors we do. Their compound eyes can also see ultraviolet. Color the flowers light purple (that is how we see them). Now go over the purple with a yellow highlighter. Some flowers absorb (soak up) ultraviolet light and can look glowing yellow to a butterfly. ★ To the compound eyes of an insect, everything appears broken up in small, six-sided pieces. The caterpillar shown here likes to eat green or purple cabbage leaves. Its eyes are "simple" and can only tell day from night. When the caterpillar is ready to become a butterfly, it often forms a special "case" on the cabbage leaf. This case will usually match the color of the leaf. Can the caterpillar's "simple" eyes see color? YOU CAN LOOK AT THE WORLD THROUGH "CATERPILLAR EYES" BY USING T/P GUIDE INSIDE BACK COVER.

EARS TO YOU

We know ears are for hearing.

That's easy to tell.

The ear's concave outer shape

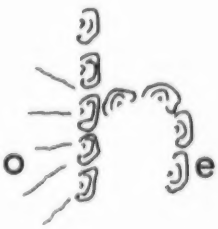
collects sound waves well.

The sound waves -t-r-a-v-e-l

to the inner ear,

making our

vibrate

and allowing us to 

This vibration m-o-v-e-s

three

bones too,

and these are connected to

a liquid-filled tube.

Working together all these

things help us to hear

LOUD and QUIET voices

a WHISPER or a **CHEER!**

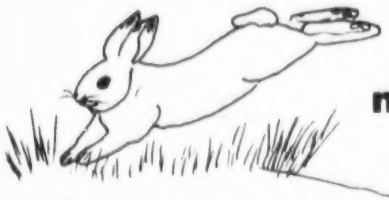
Sensing Science

Doctors sometimes place tubes in children's ears. The tubes help remove extra liquid that could make sounds hard to hear. Do you know someone who has had this done?

SPECIAL EARS

Outer ears can help living things collect SOUNDS.

Animals with **Large** ears like a



must hear their FASTEST predators (PRED-a-tors) approaching.

The SHAPE of their OUTER ears can help them hear enemies as well as find their own food (PREY).

THESE ARE ONLY FEATHER TUFTS AND NOT EARS!

THE ACTUAL EARS OF THE OWL ARE HIDDEN NEAR THE EYES! BOTH OWLS AND THEIR NIGHTTIME NEIGHBOR, THE , HAVE SUCH GOOD HEARING, THEY CAN HUNT IN THE DARK!

SENSING SCIENCE

Notice the deer's LARGE, cone shaped ears.

You can find out how the deer's ears work by making a LARGE pair of ears for yourself! Roll 2 sheets of tagboard into cones. Carefully place them to your ears and move them around. Can you hear small sounds better?

Sound-Catching Shapes

The outer ears of living things can have a sound-catching shape. In the picture, highlight the ears that look like sound catchers.

Nifty "Noses"

Many flying things need a good sense of SMELL for locating ___ ___ ___ ___ and others, as well.

Some special antennae (an-TEN-eye) [plural of antenna (an-TEN-ah)] help the ___ ___ ___ ___ ___time moths follow perfume trails without getting lost.

It's a Fact That...

True insects, like the honeybee and butterfly, have S I X legs, plus ___ ___ ___ antennae, for smelling flowers and insect perfume.

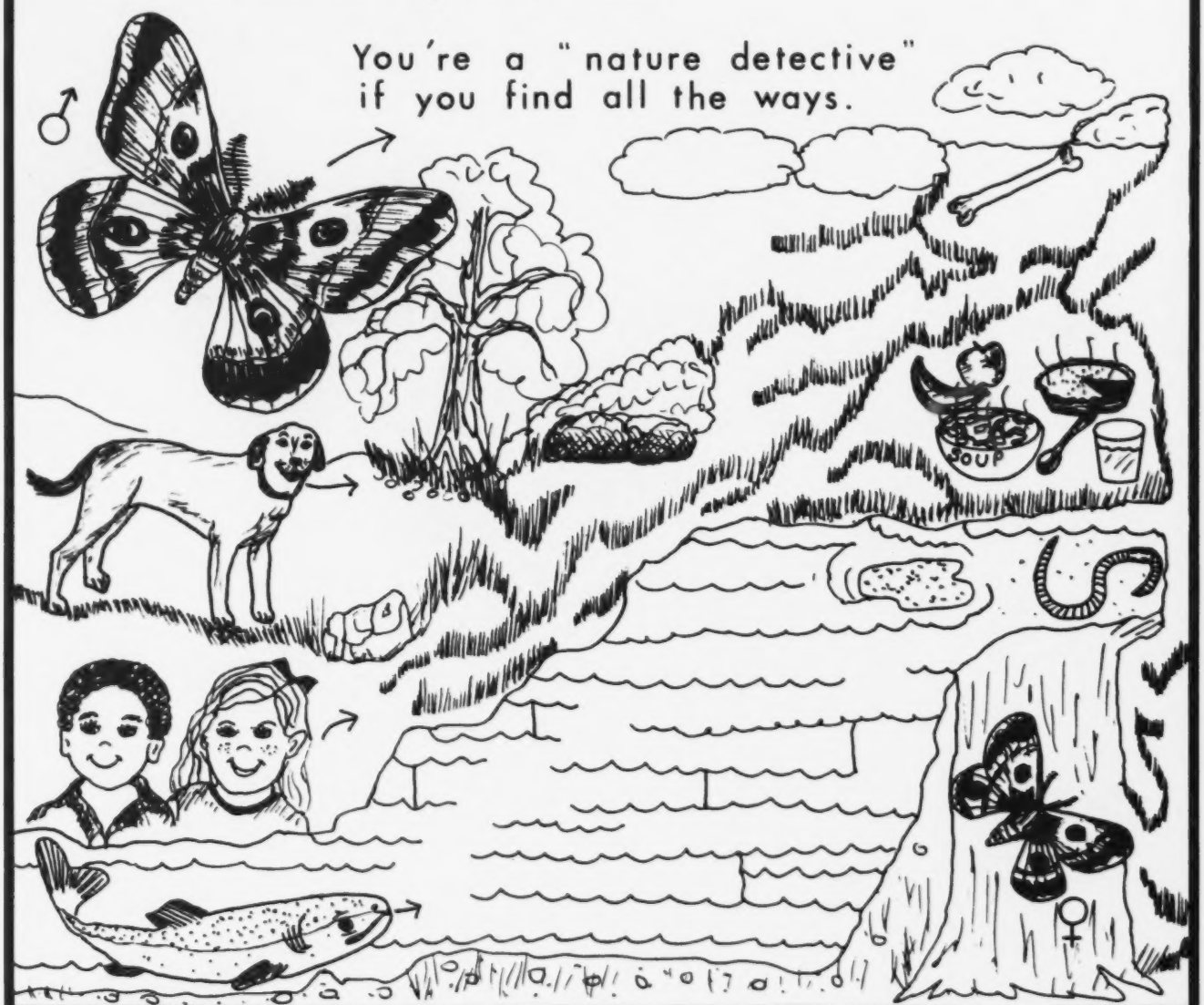
The STRONGEST sense of smell of any living thing belongs to the ♂ emperor moth. He can smell a ♀ up to 7 miles away!

(GUINNESS BOOK OF RECORDS)

THE NOSE KNOWS!

Please help these nifty "noses" sniff a path through the maze.

You're a "nature detective" if you find all the ways.



Sensing Science 1. Complete the maze in pencil. Have a friend go over one "matchup" with a scented marker. Close your eyes and follow the trail with your nose.

2. **PROVE:** The wet nose of a pet dog is an expert smeller (25 times better than ours).

Materials Needed: 3 old but clean, matching tube socks; 2 friends, and a pet dog.

Directions: Everyone places his own identifying mark inside a clean tube sock and puts on the tube sock after removing a shoe and sock. Replace the shoe and walk around for awhile. Remove the tube socks and place in a pile. Allow the dog to sniff one person's shoe and then find the tube sock that was in it. Believe it or not...

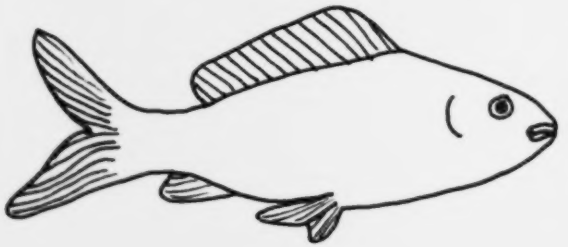
THE DOG'S NOSE WILL KNOW!

TERRIFIC "TASTERS"

Children have many taste buds inside their mouths, while grown-ups have only their tongues.

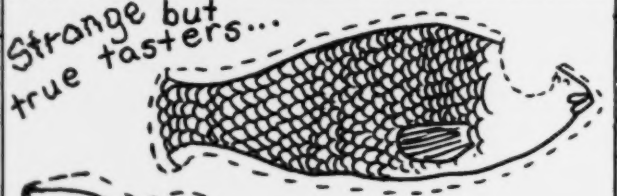
A few animals taste in rather strange ways. Below you'll find pictures of some...

It's a fact that a snake has taste organs inside of its mouth. The tongue brings the smell of the air inside to be tasted.



Cut "tasters" out along dotted lines. Glue "taster" to correct part of animal's body.

Strange but true tasters...

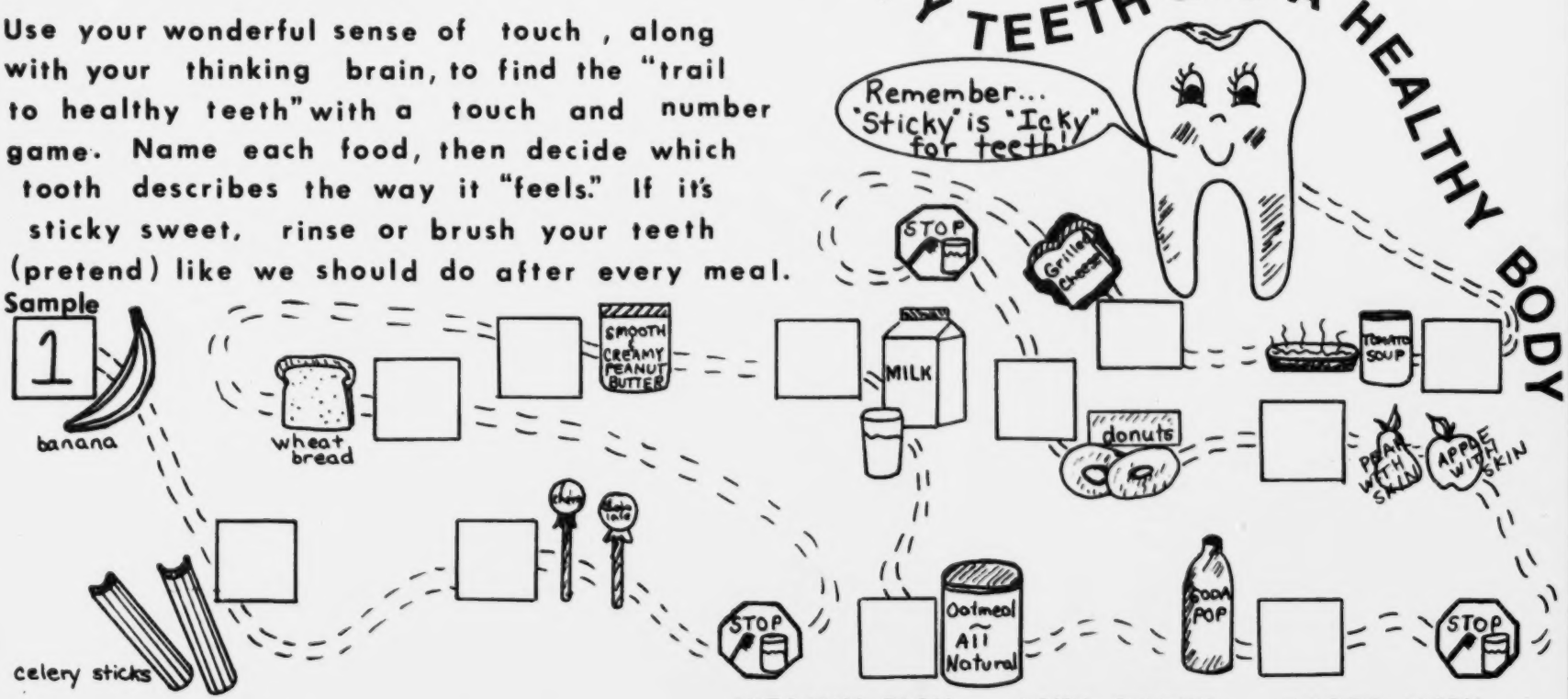


SENSING SCIENCE

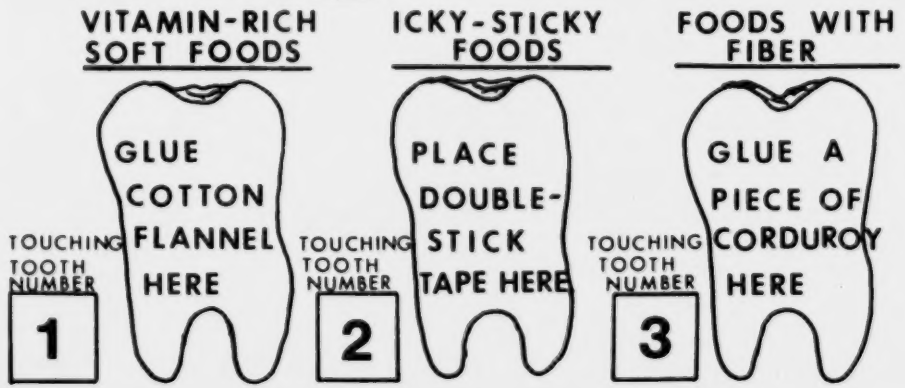
Remember the last time you had a head cold? Your nose was stuffed up so you couldn't smell the food you ate. Did all the foods seem to taste the same? You need the taste buds in your **mouth** and on your **tongue**, along with the **smell** of food, to taste the difference in the foods you eat.

A TOUCHING TRAIL TO HAPPY TEETH and A HEALTHY BODY

Use your wonderful sense of touch , along with your thinking brain, to find the "trail to healthy teeth" with a touch and number game. Name each food, then decide which tooth describes the way it "feels." If it's sticky sweet, rinse or brush your teeth (pretend) like we should do after every meal.



HOW YOUR TEETH "FEEL" ABOUT SOME FOODS...



Matching Up Moving Muscles...

When we run, jump, and move about...
muscles are things we can't do without!

Sensing Science

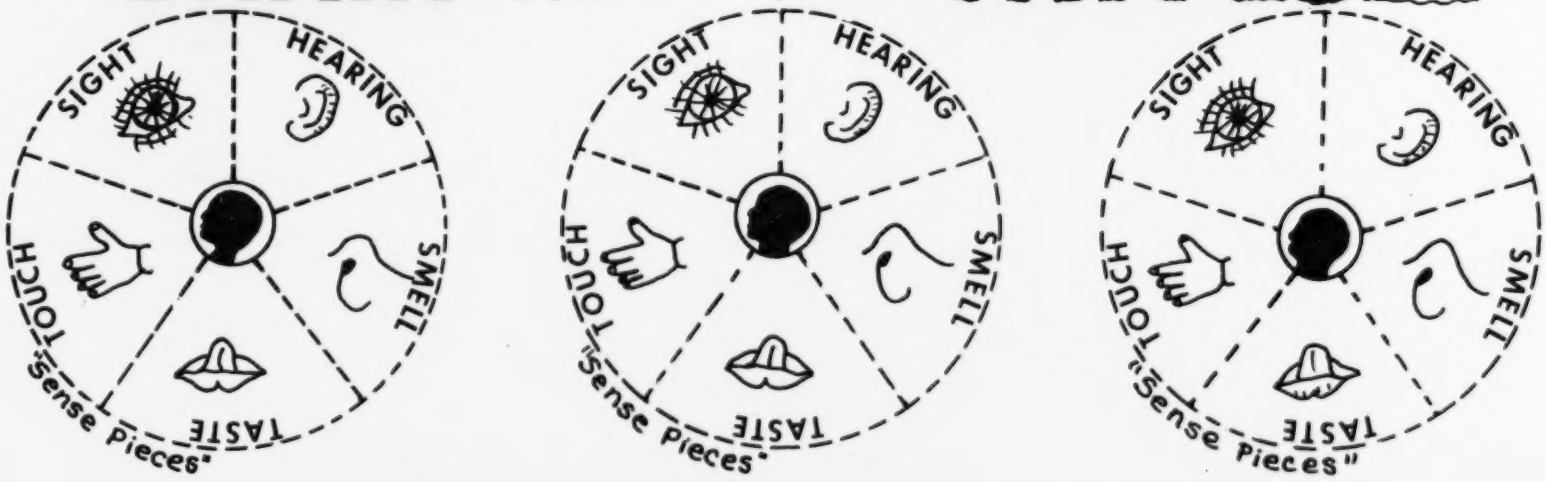
All our muscles can s-t-r-e-t-c-h and ~contract~
Can you make a rubber band do that?

TAPE AND STAPLE THE END OF A RUBBER BAND HERE...

PULL OUT... S-T-R-E-T-C-H. LET GO.. ~CONTRACT~

TO PROVE: THE HUMAN BRAIN IS BEST..... PLAY.....

BRAIN WAVES



OBJECT OF GAME Using the marvelous human brain, earn all five "sense pieces" by answering questions related to previous activities in this book. Combines Science Trivia with a Concentration Card Game.

SETUP Glue game circles (above) to tagboard. Then cut out all 15 pieces along broken lines. Sort pieces into five piles, with each pile representing one of the senses (there will be three "sense pieces" per pile). Rubber cement pp. 29-30 to tagboard. (Optional: Cover each page with clear Con-Tact.) Cut out game cards. This setup can be used for three teams or with three individual players.

TO PLAY Playing cards are shuffled and placed face down in rows as for Concentration. In turn, each player or team member turns over two cards. Cards are read by player, who then decides if the cards are a match or no match. If a match and player's answer checks out correctly using the Teacher/Parent Guide, inside back cover, then player or player's team earns a "sense piece." The piece rewarded will be the same as the picture code shown on the matched playing cards. The matching pair of cards is removed from play and game continues in turn. If the "sense piece" is already owned by the player or team, the match merits a chance to answer one of the EXTRA QUESTIONS, inside back cover, from a sense category still needed.

Should one of the cards turned be a BRAIN WAVE Wild Card, it is not necessary to make a match, and the player may answer a WILD CARD QUESTION, earning any needed sense piece with a correct answer. (Wild cards are also removed from play after they are turned up.)

The first player or team to earn all five "sense pieces" wins BRAIN WAVES!!!

Is it best to breathe through your:

?

or

?

...nose

It has air-cleaning hairs!

Which has a stronger sense of smell:

a child or a

dog?

...dog

WILD

CARD

You can feel the fiber in a:

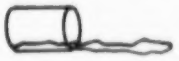
banana slice

or

a stick of celery?

...in celery.

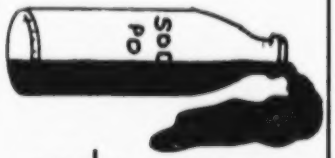
Spilt milk



or

soda pop

feels sticky?



...soda pop.

WILD

CARD

What animal tastes with its legs:

or

?

...butterfly

Who has more taste buds:

child

or

adult?

...a child.

WILD

CARD

What two things help us taste better?

...nose and mouth

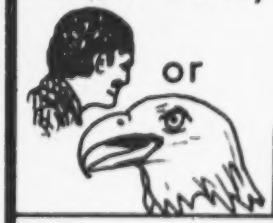
Two antennae help six-legged honeybees:

hear?
see?
smell?

...smell

WILD CARD

Which eyes can see something a mile away?



or

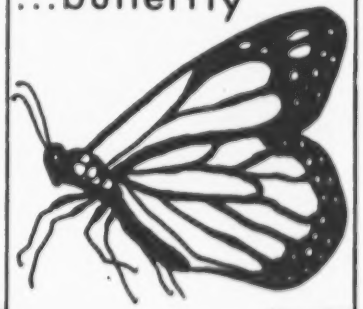
...eagle

Which has better eyesight?

caterpillar or

butterfly?

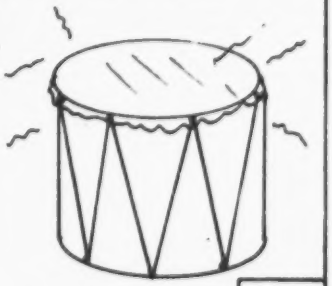
...butterfly



WILD CARD

A whistle or tom-tom "vibrates" like our eardrum?

...tom-tom



Does an owl or raccoon have ears on top of its head?

...raccoon

WILD CARD

TEACHER/PARENT GUIDE

MEET "ME" (p. 1)

This song lends itself well to movements associated with cheerleading. Children can write the letters "M" and "E" on two separate cards. The letters are held up when mentioned in the song. The final words, "I'm great!" are best demonstrated by jumping up from a crouched position, holding both cards high above the head.

THE ORIGIN OF OXYGEN (p. 4)

Answer Key: earth, sea, land, plants

PLANTS—PAST AND PRESENT (pp. 5-6)

An easy-to-use Sunprint Photo Kit is available from: Discovery Corner, Dept. A; Lawrence Hall of Science; University of California; Berkeley, California 94720; or call 415-642-1016.

Answer Key: green, sun, water

"STEPPING THROUGH TIME" (pp. 8-11)

To complete the game, follow steps one through seven. All living things are **underlined** in the text and listed in the order of placement. Initially children will identify and color the pictures of 19 living things. The colored pictures are then cut out and pasted in the Time Cycle as indicated in each step.

THE PAST AND PRESENT WORLD . . . (p.12)

Children cut and paste pictures of nonliving things from pp. 10-11, as named on the Time Cycle, beginning with "rock." Any additional pictures not listed may be glued outside the Cycle.

BELIEVE IT OR NOT (p.13)

Color the following with a highlighter: leaves, fish gills, caterpillar spiracles, mouth, nose, lungs, toad and frog's skin.

THE BREATHING CONNECTION (p. 14)

Cut out cards and match frog with skin, plant with leaves, fish with gills, caterpillar with spiracles.

MAKING THE AIR BREATHABLE (p. 15)

At the bottom of the page, highlight the following: wrong, right, right, wrong.

SEEING THE WORLD . . . (p.18)

For a view of the world through the eyes of a caterpillar, tear out a 15" x 24" piece of waxed paper. Children should color the cabbage leaves as directed, including the pupa case. The leaves are cut out and a brad fastener is used as indicated for the following activity. Position the leaves so one color is above and the remaining color is below. Then have each child take a turn looking at the leaves through the waxed paper. (The blurred view simulates caterpillar eyesight.) Can their "caterpillar eyes" determine which color is above and which is below? As turns are taken, the colored arrangement should be varied. Now have one child hold the waxed paper around the front and side of the head, while another turns the classroom lights on and off (day and night). Can "caterpillar eyes" see the change in room light?

SOUND-CATCHING SHAPES (p. 21)

Answer Key: squirrel, deer, rabbit, dog, boy, mouse, beaver, raccoon

NIFTY "NOSES" (p. 22)

Answer Key: Top—food, night; bottom—two

THE NOSE KNOWS! (p.23)

Male moth to female moth, dog to bone, children to food, fish to worm

TERRIFIC "TASTERS" (p.24)

Forked tongue = snake's mouth, legs = butterfly, scaly body = fish

A "TOUCHING" TRAIL . . . (p.25)

Answer Key: banana = 1, celery = 3, lollipops = 2, wheat bread = 3, creamy peanut butter = 1, milk = 1, oatmeal = 3, soda pop = 2, pear and apple with skin = 3, donuts = 2, grilled cheese = 1, tomato soup = 1

MATCHING UP MOVING MUSCLES . . . (pp.26-27)

Glue both pages to tagboard and then cut out cards for matching as follows: Boy smiling with muscle figure of head. Girl dancing with figure of lower body with leg raised. Boy holding radio with picture of arm muscle. Remaining matches obvious.

BRAIN WAVES (pp.28-30)

Game Card Answers by Sense Category:

Eyesight = An **eagle** can see something a mile away. A **butterfly** has better eyesight than a caterpillar.

Hearing = A **tom-tom** vibrates something like our eardrum. A **raccoon**, not an owl, has ears on top of its head.

Tasting = Your **nose and mouth** help you taste. A **butterfly** tastes with its legs. A **child** has more taste buds than an adult.

Smelling = Two antennae help honeybees **smell**. It is best to breathe through your **nose**. A **dog** has a stronger sense of smell than a child.

Touching = You can feel fiber in **celery**, not in a slice of banana. **Soda pop** will feel sticky if spilt because it contains sugar.

Wild Card Questions: Dinosaurs or **green plants** first made the land air breathable?
Males are **boys** or girls? Females are boys or **girls**?
When eating sweets we should always (1) exercise (2) sing a song, (3) **rinse or brush our teeth**?
A burning fire or **dragonfly** is a living thing?
A **computer** or a tree is a nonliving thing?
A fish or a **frog** breathes through its skin?
You smile with muscles in your arms or **face**?
Most of your senses are found on your **head** or in your stomach.

Extra Questions: (To be answered as true or false. Listed by sense category.)

Sight	Insects can see glowing, ultraviolet color in flowers.	(T)
	Our eyes can magnify objects like the eyes of a hawk.	(F)
Hearing	An owl's ears are hidden near its eyes.	(T)
	We can hear loud sounds but not soft sounds.	(F)
Tasting	A fish tastes with its body.	(T)
	Our fingers can taste the food we touch.	(F)
Smelling	A head cold helps your sense of smell.	(F)
	The smell of food can make us hungry.	(T)
Touch	If sugary candy melts in your hand, it feels sticky.	(T)
	Your tongue can feel the fiber in oatmeal.	(T)